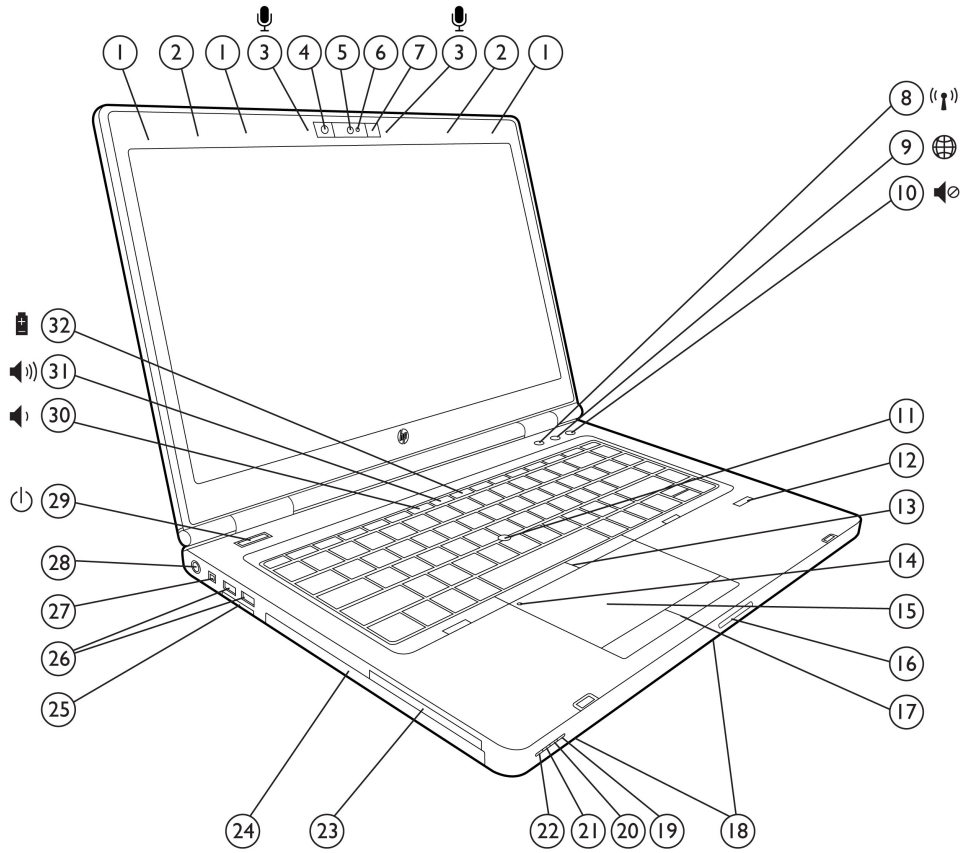
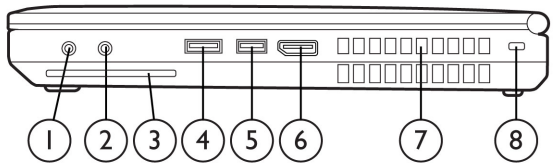
Overview



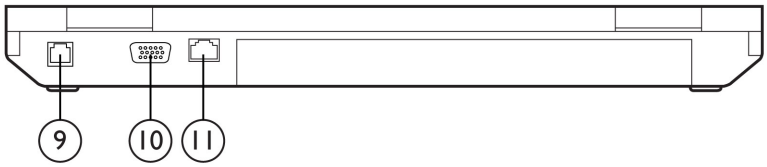
1. WLAN antennas (3)
2. WWAN antennas
3. Dual-microphone array
4. Optional 720p HD webcam
5. Ambient Light Sensor
6. HP Night Light on/off button
7. HP Night Light
8. Wireless on/off button with LED indicator
9. HP QuickWeb button with LED indicator
10. Volume mute button with LED indicator
11. Pointstick
12. Optional HP Fingerprint Sensor
13. Pointstick pick buttons
14. Touchpad on/off button with LED indicator
15. Touchpad with scroll zone
16. Display release latch
17. Touchpad pick buttons
18. Stereo speakers (see bottom view)
19. Hard drive activity / HP 3D DriveGuard LED indicator
20. Battery charging LED indicator
21. Power/standby LED indicator
22. Wireless on/off LED indicator
23. ExpressCard/54 slot
24. Upgrade Bay (optical drive, second hard drive or weight saver)
25. Secure Digital/MMC slot
26. (2) USB 3.0 ports
27. 1394a port
28. Power connector
29. Power button with LED indicator
30. Volume down function key
31. Volume up function key
32. HP Power Assistant function key

Overview

Right View

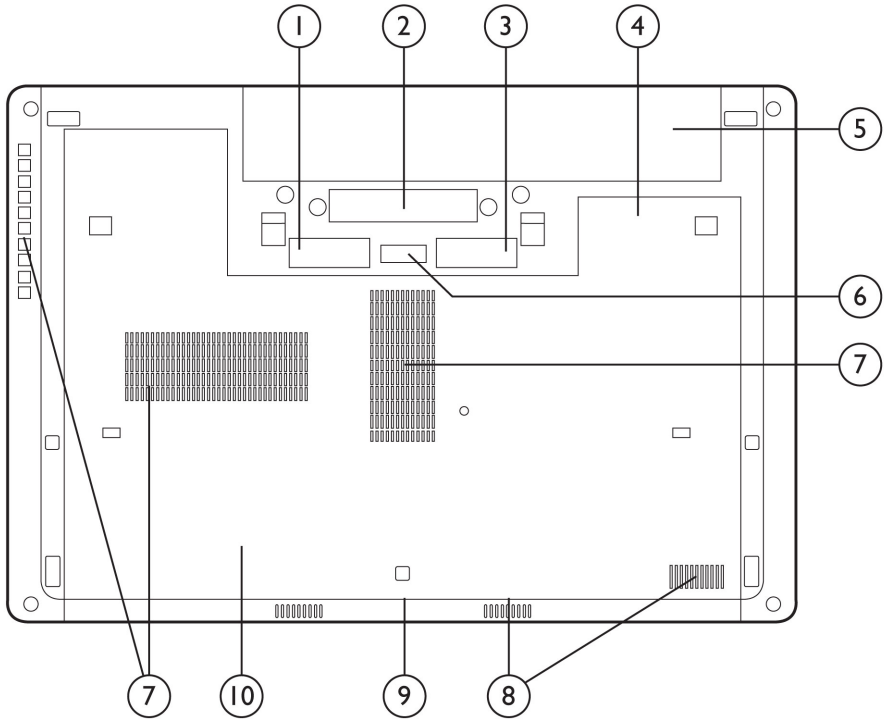


Rear View



1. Stereo headphone/line out
2. Stereo microphone/line in
3. Integrated Smart Card reader
4. eSATA/USB 2.0 combo port
5. (1) USB 2.0 charging port
6. DisplayPort
7. Vents
8. Security lock slot
9. RJ-11/modem port
10. VGA/external monitor connector
11. RJ-45/Ethernet port

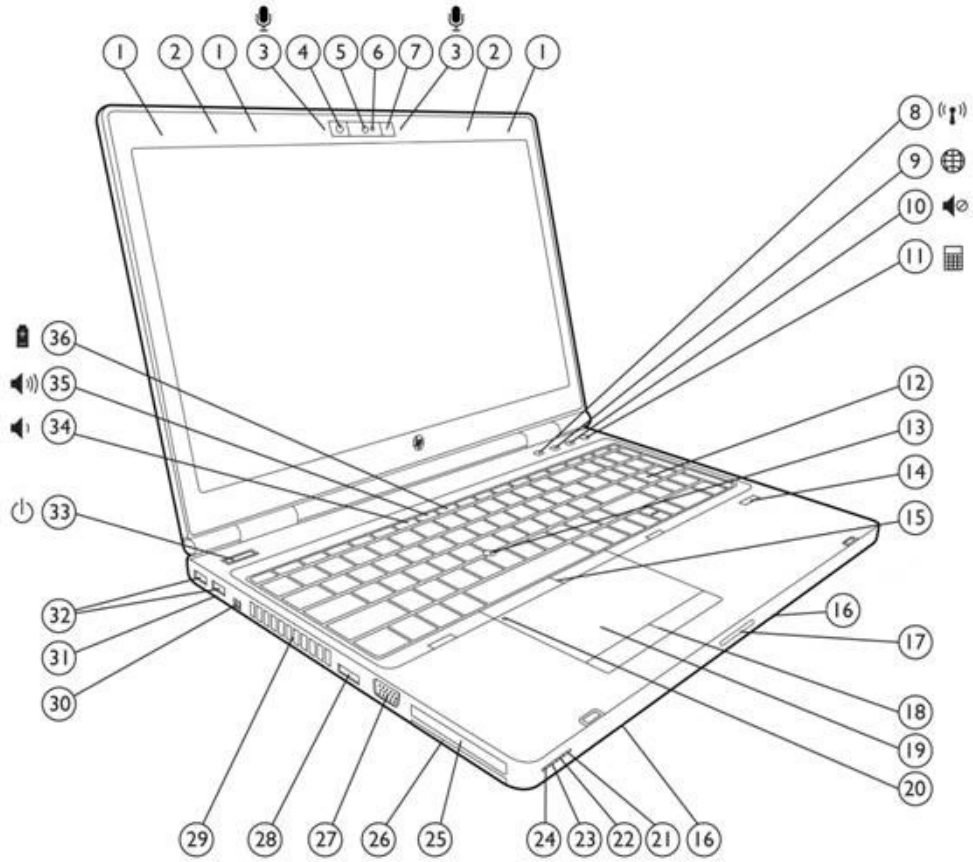
Bottom View



1. Battery release latch
2. Docking connector
3. Bottom cover release latch
4. SIM slot for WWAN (select models)
5. Battery bay
7. Vents
8. Speakers
9. Bluetooth module compartment
10. Hard drive, memory, and wireless compartments under bottom cover

6. Secondary battery connector

HP EliteBook 8560p Notebook PC



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10. Volume mute button with LED indicator
11. Calculator button with LED indicator
12. Numeric keypad
13. Pointstick
14. Optional HP Fingerprint Sensor
15. Pointstick pick buttons
16. Stereo speakers
17. Display release latch
18. Touchpad pick buttons
19. Touchpad with scroll zone
20. Touchpad on/off light
21. Hard drive activity / HP 3D DriveGuard LED indicator
22. Battery charging LED indicator
23. Power/standby LED indicator
24. Wireless on/off LED indicator
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26. Smart Card Reader
27. VGA/external monitor connector
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32. (2) USB 2.0 ports**
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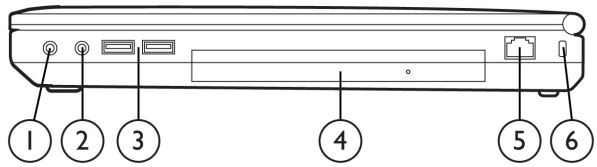
34. Volume down function key
35. Volume up function key
36. HP Power Assistant function key

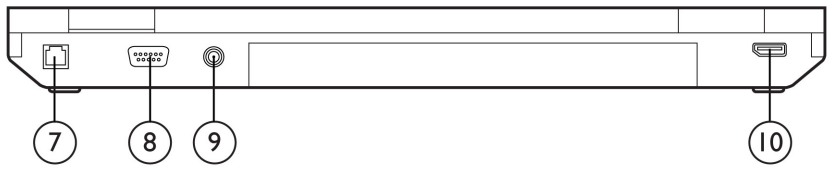
** USB 2.0 port on right is a charging port.

Overview

Right View



Rear View



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3. (2) USB 3.0 ports
4. Upgrade Bay (optical drive, second hard drive, or weight saver)
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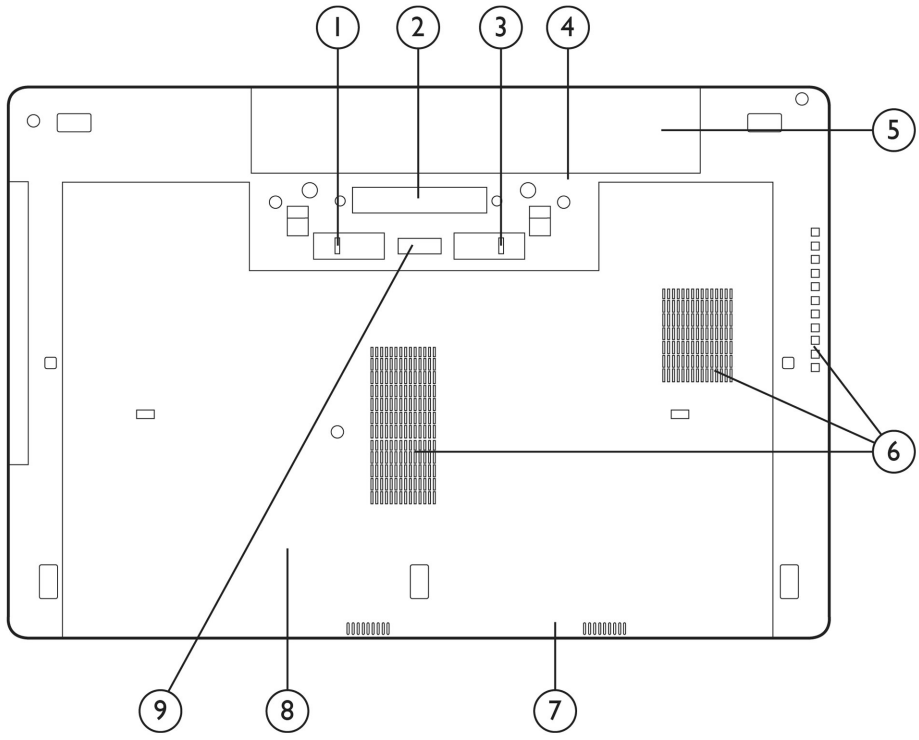
8. Serial port
9. Power connector
10. DisplayPort

Bottom View



1. Battery release latch
2. Docking connector
3. Bottom cover release latch
4. SIM slot for WWAN (select models)
5. Battery bay
6. Vents
7. Bluetooth module compartment
8. Hard drive, memory, and wireless compartments under bottom cover
9. Bluetooth module compartment

At A Glance

- Genuine Windows 7 versions or FreeDOS
- Widescreen LED-backlit display
  HP EliteBook 8460p: 14.0-inch diagonal HD or HD+
  HP EliteBook 8560p: 15.6-inch diagonal HD, HD+ wide viewing angle, or FHD wide viewing angle
- Choice of 2nd generation Intel® Core™ i7 and i5 processors
- Intel Core i7 with vPro and Core i5 with vPro technology (optional)
- AMD Radeon™ HD 6470M discrete graphics with 1 GB dedicated video memory or integrated Intel® HD Graphics 3000 (Intel HD Graphics 3000 are available on the 8460p only)
- All new design with aluminum display enclosure, magnesium-reinforced chassis, wear-resistant platinum-colored HP DuraFinish, HP DisplaySafe frame, precision aluminum-alloy hinges, cast titanium-alloy display latches, keyboard in full aluminum deck, and chemically strengthened glass touchpad; designed to meet the military standard Mil-Std-810G for vibration, dust, altitude, and high temperature operation*
- Easily hot dock with one of the optional HP docking stations
- AMD Eyefinity Technology for advanced multi-monitor support
- DisplayPort for high resolution support
- SRS Premium Sound optimized for high fidelity audio
- Choice of primary battery to optimize run-time or weight: 9-cell (100 WHr), 6-cell (62 WHr), or 6-cell (55 WHr) HP Long Life Battery
- Flexible wireless connectivity options:
  - Optional integrated HP un2430 EV-DO/HSPA Mobile Broadband Module (Gobi 3000) provides GPS functionality (availability expected May, 2011)
  - Integrated Intel Centrino® 802.11 a/b/g/n 2x2 or a/b/g/n 3x3, Atheros 802.11 a/b/g/n 3x3, or Broadcom 802.11 a/b/g/n 2x2 or b/g/n 1x1 wireless LAN module
  - Bluetooth® v2.1+EDR
- HP Power Assistant allows you to conserve power, stretch battery run-time, accurately monitor the energy usage of the PC and up to four select HP external monitors, and report workforce power consumption.
- HP QuickWeb for convenient online access without long boot-up times
- Upgrade Bay for optical drive, optional second hard drive, or weight saver
- Choice of 7200 rpm user-removable hard drive up to 750 GB with HP 3D DriveGuard protection, or 128/160 GB Solid State Drive
- Security features including HP ProtectTools, with central management across HP and non-HP client PCs
- BFR/PVC-free**, ENERGY STAR® qualified,*** and EPEAT Gold registered in the U.S. EPEAT status varies by country-—please see epeat.net.

* Testing was not intended to demonstrate fitness for DOD contracts requirements or for military use. Test results are not a guarantee of future performance under these test conditions.

** Meeting the industry definition of 'BFR/PVC-free' per the iNEMI Position Statement on "Low Halogen" Electronics. Plastic parts incorporated into the chassis generally contain < 1000 ppm (0.1%) of bromine or chlorine. Printed circuit board and substrate laminates generally contain < 1500 ppm (0.15%) of total bromine and chlorine. Service parts after purchase may not be BFR/PVC-free. External accessories, including power supplies, power cords, and peripherals as well as the following customer-configurable internal components: ATT SIM card are not BFR/PVC-free.

*** Microsoft Windows is required for ENERGY STAR qualification.

Standard Features (availability may vary by country)

Processors	2nd Generation Intel Core i7 Processors	
	Intel Core i7-2720QM Processor (2.20 GHz, 6 MB L3 cache, 4 cores/8 threads, 45W)* Up to 3.30 GHz with Intel Turbo Boost Technology	
	Intel Core i7-2630QM Processor (2.00 GHz, 6 MB L3 cache, 4 cores/8 threads, 45W)* † Up to 2.90 GHz with Intel Turbo Boost Technology	
	Intel Core i7-2620M Processor (2.70 GHz, 4 MB L3 cache, 2 cores/4 threads, 35W)* Up to 3.40 GHz with Intel Turbo Boost Technology	
	2nd Generation Intel Core i5 Processors	
	Intel Core i5-2540M Processor (2.60 GHz, 3 MB L3 cache, 2 cores/4 threads, 35W)* Up to 3.30 GHz with Intel Turbo Boost Technology	
	Intel Core i5-2520M Processor (2.50 GHz, 3 MB L3 cache, 2 cores/4 threads, 35W)* Up to 3.20 GHz with Intel Turbo Boost Technology	
	Intel Core i5-2410M Processor (2.30 GHz, 3 MB L3 cache, 2 cores/4 threads, 35W)* † Up to 2.90 GHz with Intel Turbo Boost Technology	
	* Intel's numbering is not a measurement of higher performance. † Not available with vPro. NOTE: Processor speed denotes maximum performance mode; processors will run at lower speeds in battery optimization mode.	
Operating System	Preinstalled	Genuine Windows 7 Professional 32* Genuine Windows 7 Professional 64* Genuine Windows 7 Home Premium 64* FreeDOS
	Supported	Genuine Windows 7 Enterprise 32* Genuine Windows 7 Enterprise 64* Genuine Windows 7 Ultimate 32* Genuine Windows 7 Ultimate 64* Genuine Windows Vista Enterprise 32** Genuine Windows Vista Enterprise 64** Genuine Windows Vista Business 32** Genuine Windows Vista Business 64** Genuine Windows XP Professional 32
	Certified	SuSE Linux Enterprise Desktop 11
	* System may require upgraded and/or separately purchased hardware and/or a DVD drive to install the Windows 7 software and take full advantage of Windows 7 functionality. See http://www.microsoft.com/windows/windows-7/ for details. ** Certain Windows Vista product features require advanced or additional hardware. See: http://www.microsoft.com/windowsvista/getready/hardwarereqs.mspx and http://www.microsoft.com/windowsvista/getready/capable.mspx for details. Windows Vista Upgrade Advisor can help you determine which features of Windows Vista will run on your computer. To download the tool, visit: http://www.windowsvista.com/upgradeadvisor.	
Chipset	Mobile Intel QM67 Express Chipset	

Standard Features (availability may vary by country)

Intel Core i5 with vPro/Core i7 with vPro technology capable	Intel Core i5 with vPro and Core i7 with vPro technology is a selectable feature that is available on units configured with select processors, an Intel Centrino® Advanced-N or Ultimate-N WLAN module and a preinstalled Windows operating system. It provides advances in remote manageability, security, energy efficient performance, and wireless connectivity. Intel Active Management Technology 7.0 (iAMT) offers built-in manageability and proactive security for networked notebook PCs, even when they are powered off* or when the operating system is inoperable. It can help identify threats before they reach the network, isolate infected systems, and update PCs regardless of their power state. *Requires a Windows operating system, network hardware and software, connection with a power source, and a direct (non-VPN) corporate network connection which is either cable or wireless LAN. NOTE: Some functionality of Intel Core i5 with vPro/Core i7 with vPro technology, such as Intel Active Management technology and Intel Virtualization technology, requires additional third- party software in order to run. Availability of future "virtual appliances" applications for Intel Core i5 with vPro/Core i7 with vPro technology is dependent on third- party software providers. Compatibility with future "virtual appliances" is yet to be determined.
Graphics	Models with discrete graphics: AMD Radeon™ HD 6470M with 1 GB dedicated DDR3 video memory Microsoft DirectX 11 (Shader Model 5.0) and OpenGL 4.0 capable AMD Eyefinity Technology supports up to four independent displays when using an HP Advanced Docking station Models with integrated graphics (8460p only): Intel HD Graphics 3000 Microsoft DirectX 10.1 (Shader Model 4.1) and OpenGL 3.0 capable, supports up to two independent displays

Display	Internal	HP EliteBook 8460p: 14.0-inch diagonal LED-backlit HD anti-glare (1366 x 768 resolution) 14.0-inch diagonal LED-backlit HD+ anti-glare (1600 x 900 resolution) HP EliteBook 8560p: 15.6-inch diagonal LED-backlit HD anti-glare (1366 x 768 resolution) 15.6-inch diagonal LED-backlit HD+ WVA anti-glare (1600 x 900 resolution) HP Privacy Filter support
	External	Up to 32-bit per pixel color depth DisplayPort supports resolutions up to 2560 x 1600, 30-bit color depth at 60 Hz, and full HD (1920 x 1080) monitors, 24-bit color depth at 120 Hz VGA port supports resolutions up to 2048 x 1536 at 75 Hz, and lower resolutions at up to 100 Hz DVI-D (single link) video signal available through DVI port in optional HP Docking Station (sold separately) supports resolutions up to 1600 x 1200 at both full and reduced blanking, and 1920 x 1200 at reduced blanking NOTE: Resolutions are dependent upon monitor capability, and resolution and color depth settings.

Standard Features (availability may vary by country)

Memory	**Standard**	DDR3 PC3-10600 SDRAM (1333 MHz) Two SODIMM slots supporting dual-channel memory 2 GB, 4 GB, and 8 GB SODIMMs
	Maximum	Upgradeable to 16 GB with 8 GB SODIMMs in slots 1 and 2
	Dual-channel	Maximized dual-channel performance requires SODIMMs of the same size and speed in both memory slots.
	NOTE: Due to the non-industry standard nature of some third-party memory modules, we recommend HP branded memory to ensure compatibility. If you mix memory speeds, the system will perform at the lower memory speed. Full availability of 4 GB or more of memory requires a Windows 64-bit operating system or Linux. With Windows 32-bit operating systems, the amount of usable memory is dependent upon your configuration, so that above 3 GB all memory may not be available due to system resource requirements.	
Communications	Integrated Intel 82579LM Gigabit* Network Connection (vPro configurations) 56K V.92 modem** * The term "10/100/1000" or "Gigabit" Ethernet indicates compatibility with IEEE standard 802.3ab for Gigabit Ethernet, and does not connote actual operating speed of 1 Gb/s. For high-speed transmission, connection to a Gigabit Ethernet server and network infrastructure is required. ** Designed for downloads from 56K modem compliant sources. Maximum achievable download transmission rates currently do not reach 56 KB/s, and will vary with line conditions. Modem availability is subject to country regulatory approval.	
Wireless Devices	Support for a broad range of secure, integrated wireless LAN and wireless WAN options featuring support for the latest industry standards. Broadband Wireless (WWAN) requires a Windows operating system and is available in select countries as a standard, factory configurable feature or an after market option. Integrated Bluetooth is also available (factory configurable only) and can be combined with any of the supported wireless LAN and wireless WAN options.	
	Mobile Broadband options	Two 850/900/1575/1700/1800/1900/2100 MHz antennas integrated in the top of the display panel support current and future WWAN technologies. NOTE: Separately purchased mobile network operator service is required.
	HP un2430 EV-DO/HSPA Mobile Broadband Module (availability expected May, 2011)	Integrated mobile broadband module with Gobi global mobile Internet technology that provides connectivity to both CDMA (EVDO) and UMTS (HSPA) networks. It also provides GPS functionality for various mapping applications and security applications such as Computrace LoJack Pro Premium for HP ProtectTools.
	All 802.11 integrated wireless LAN options	Wi-Fi Certified* Cisco Compatible Extensions support Wired Equivalent Privacy (WEP) support up to 128-bit keys Wi-Fi Protected Access (WPA) and WPA2 support 802.1x authentication support, including EAP-TLS, EAP-TTLS, PEAP-GTC, PEAP-MSCHAPv2, and LEAP Advanced Encryption Standard (AES) support Dual antennas integrated in the display enclosure

Standard Features (availability may vary by country)

Intel Centrino Ultimate-N 6300 (3x3)	Integrated support for 802.11a, b, g, and n* 3 transmit, 3 receive antennas Up to 450 mbps data rate
Intel Centrino Advanced-N 6205 (2x2)	Integrated support for 802.11a, b, g, and n* 2 transmit, 2 receive antennas Up to 300 mbps data rate
Atheros HB112AGN 802.11a/b/g/n (3x3) WiFi Adapter	Integrated support for 802.11a, b, g, and n* 3 transmit, 3 receive antennas
Broadcom 43224AGN 802.11a/b/g/n WiFi Adapter	Integrated support for 802.11 a, b, g, and n Up to 300 mbps data rate
Broadcom 4313GN 802.11b/g/n WiFi Adapter	Integrated support for 802.11 b, g, and n Up to 72 mbps data rate
HP Integrated Module with Bluetooth 2.1+EDR Wireless Technology	Bluetooth Specification v2.1+EDR compliant Works with a wide range of Bluetooth devices

*Wireless access point and Internet service required and sold separately. Availability of public wireless access points limited.

Keyboard	The HP spill-resistant keyboard is designed using a thin layer of Mylar film under the keyboard and a drain system that funnels fluid through a hole in the bottom of the notebook. This minimizes the risk of damage to sensitive components underneath. The 101/102-key compatible keyboard features a full-pitch key layout with desktop keyboard features, such as editing keys, both left and right control and alt keys, function keys, and 19.05 x 19.05 mm key pitch (center-to-center spacing). U.S. and International key layouts are available. Other features include hot keys for instant access to power conservation and brightness. The HP EliteBook 8560p includes a separate numeric keypad.
Launch Buttons and Function Keys	Separate launch buttons provide easy access to the following features: wireless on/off, HP QuickWeb, and volume mute. The HP EliteBook 8560p also features a calculator launch button. Function keys provide control of the following features: standby mode, external display, volume down, volume up, HP Power Assistant, and display brightness.
Pointing device	Touchpad with on/off button, two-way scroll, gestures, two pick buttons Pointstick with two additional pointstick buttons

Standard Features (availability may vary by country)

Expansion card slots	ExpressCard/54 slot	Supports ExpressCard/54 and ExpressCard/34
	Integrated Smart Card Reader	Compatible with ISO 7816 compliant Smart Cards PC/SC interface support
	Secure Digital/MMC slot	Supports SD (Secure Digital), SDHC, SDXC, MMC (MultiMedia Card), and MMC+
Internal Storage	Hard drives	250/320/500/750 GB 7200 rpm SMART SATA II 320 GB 7200 rpm SMART SATA II Self Encrypting Drive
	NOTE: These hard drives are customer removable and will withstand multiple insertion/removal cycles. Up to 10 GB is reserved for the system recovery software.	
	HP 3D DriveGuard (Windows only)	The hard drive is mounted directly to the notebook frame, reducing the transmission of shock to the hard drive. Uses three-axis digital motion detection with intelligent sensitivity to help protect the hard drive during normal use from shock and vibration. The digital accelerometer temporarily halts all data transfer and parks the hard drive when abrupt motion is detected.
	Solid State Drive	128/160 GB
Upgrade Bay	Fixed 12.7 mm SATA optical drive	Blu-ray R/RE DVD+/-RW SuperMulti DL Drive DVD+/-RW SuperMulti DL Drive DVD-ROM Drive
	Second hard drive	500 GB 7200 rpm SMART SATA II Hard Drive
	Weight saver	
Interfaces	ExpressCard/54 slot	One
	External monitor	Two - (1) DisplayPort, (1) VGA
	1394a	One
	Stereo microphone in	One
	Stereo headphone/line out	One
	Power connector	One
	RJ-11/modem	One
	RJ-45/Ethernet	One
	USB 3.0	Two
	USB 2.0	HP 8460P: One (charging port) HP 8560p: Two (includes one charging port)
	eSATA/USB 2.0 combo	One
	Serial port	One (HP EliteBook 8560p only)
	Docking connector	One
	Secondary battery connector	One

Standard Features (availability may vary by country)

Audio/Visual

SRS Premium Sound™
Integrated stereo speakers
Integrated microphone (dual-microphone array when equipped with optional webcam)
Button for volume mute; function keys for volume up and down
Stereo headphone/line out
Stereo microphone/line in

Optional 720p HD webcam

- HD format (widescreen)
- Supports videoconferencing and still image capture
- High quality fixed focus lens
- Video capture at various resolutions up to 1280x720 resolution (720p) and up to 30fps
- M-JPEG compression supports higher frame rates for video capture and videoconferencing
- Improved low light sensitivity
- Improved dynamic range

Software

Preinstalled software with Windows operating system

HP Recovery Manager
HP Support Assistant
HP ProtectTools Security Manager
HP ProtectTools for Central Management
HP Hotkey Support
HP QuickWeb
HP Power Assistant
HP Connection Manager 4.0
HP DayStarter
Microsoft Office 2010 preloaded (purchase of a Product Key required to activate a full Office 2010 suite)*
Norton Internet Security 2011**
PDF Complete Special Edition***
Intervideo WinDVD - DVD Player (select models)
Roxio Burn Secure (select models)
Roxio MyDVD 10 SE (select models)
HP Webcam Software (select models)
Skype

Additional software available from the web

HP SoftPaq Download Manager

* Microsoft Office 2010 Preloaded includes reduced functionality versions of Word and Excel. Purchase of Product Key required to activate full Office 2010 suite available at participating resellers/retailers and http://www.office.com.
** Norton Internet Security 2011 includes 60 days of complimentary live updates; subscription required for live updates thereafter. Internet access required to receive updates.
*** PDF Complete Special Edition 60 day trial; purchase license afterwards for full functionality.

Standard Features (availability may vary by country)

HP Recovery Manager	Models shipped with Windows 7 or Windows Vista include HP Recovery Manager. HP Recovery Manager enables fast recovery of the factory preinstalled image if the system becomes corrupted or if important system files are accidentally deleted. Up to 20 GB of the hard drive is reserved for the system recovery software.		
Security	Standard Features	HP ProtectTools Security Manager (standard modules include) • Credential Manager • Computrace* Pro • Device Access Manager • Drive Encryption • Face Recognition (webcam configurations only) • File Sanitizer • Privacy Manager • Embedded Security Integrated Smart Card Reader Enhanced Pre-Boot Security (Multiuser / Multifactor) HP SpareKey One-Step Logon TPM 1.2 Embedded Security Chip** HP Disk Sanitizer Security lock slot Support for Intel AT***	
	Optional Features	HP Fingerprint Sensor	Enhanced sensor scans the fingerprint to uniquely identify and authenticate a person.
		HP Privacy Filter	Narrows viewing area so that screen data is visible only to persons directly in front of the monitor.
		Computrace* Pro for HP ProtectTools with GPS Tracking	Subscription based security solution providing the ability to track, initiate physical recovery, conduct asset management, and perform remote data delete by utilizing GPS technology. GPS functionality requires HP Mobile Broadband Module.

* The Computrace agent is shipped turned off, and must be activated by customers when they purchase a subscription with terms ranging from one to five years.
** TPM module disabled where use is restricted by law, for example, Russia and China.T
For more information on HP security solutions refer to: http://www.hp.com/products/security.
*** Intel AT security requires a separately purchased Absolute Computrace service subscription and must be activated and configured. Check with Absolute for availability in your country. Intel and HP assume no liability for lost or stolen data and/or systems or any other damages resulting therefrom. See http://www.intel.com/technology/anti-theft/

Standard Features (availability may vary by country)

HP ProtectTools Security Manager with Central Management

HP ProtectTools Security Manager is the security platform for business notebooks and desktops. The HP ProtectTools Security Manager is an extensible client security console that delivers enhanced security capabilities through add-on software modules. The ProtectTools modules are available on the hard drive (also downloadable from the web) and can be configured in Software Setup.

HP ProtectTools is centrally manageable with the capability to manage notebooks from a single point. HP ProtectTools is management ready out of the box, in partnership with Digital Persona. Features address requirements that customers expect from a centrally managed security solution such as user provisioning, credential reset, and credential revocation.

HP ProtectTools provides two separate management solutions, targeted at the enterprise and the SMB:

- Digital Persona Pro AD: Designed for the enterprise customer. Integrates with Active Directory and gives IT Managers the ability to provision users, create login policies based on passwords, biometrics or smartcards. Management features also include remote credential recovery in case the user forgets the password, loses the smartcard or cannot use the fingerprint reader for any reason. In addition, advanced auditing capabilities are also built in. Digital Persona Pro AD is available now.
- Digital Persona Pro Workgroup: Designed for the small business customer. Provides features similar to the Active Directory version, but for workgroups. Workgroup activation is built into HP ProtectTools, and activation of up to 5 seats is completely free.

For more information on Central Management for HP ProtectTools, refer to:
http://www.hp.com/products/security.

Power Supply

Models with discrete graphics or quad-core processor:
External 90-watt Smart AC adapter
Models with integrated graphics and without quad-core processor:
External 65-watt Smart AC adapter
Power cord included is 6-foot (1.8 meter).
Total length including external AC adapter is 12 feet (3.66 meter).
HP Fast Charge*

*HP Fast Charge recharges your battery up to 90% within 90 minutes when the system is off. HP Fast Charge does not apply to the 9-cell primary battery, HP ST09 Extended Life Notebook Battery, or HP BB09 Ultra Extended Life Notebook Battery.

Battery

Primary battery	HP 9-cell (100 WHr) Li-Ion battery HP 6-cell (62 WHr) Li-Ion battery HP Long Life 6-cell (55 WHr) Li-Ion battery
Secondary battery Options	HP BB09 Ultra Extended Life Notebook Battery (9-cell 100 WHr) HP ST09 Extended Life Notebook Battery (9-cell 73 WHr)

Standard Features (availability may vary by country)

Battery Life

HP EliteBook 8460p*

9-cell (100 WHr)	Up to 13 hours and 45 minutes
6-cell (62 WHr)	Up to 8 hours and 15 minutes
with optional HP ST09 Extended Life Notebook Battery	Up to 18 hours and 30 minutes
with optional HP BB09 Ultra Extended Life Notebook Battery	Up to 22 hours and 30 minutes

HP EliteBook 8560p*

9-cell (100 WHr)	Up to 12 hours
6-cell (62 WHr)	Up to 7 hours and 15 minutes
with optional HP ST09 Extended Life Notebook Battery	Up to 16 hours and 15 minutes
with optional HP BB09 Ultra Extended Life Notebook Battery	Up to 20 hours

* Configurations with integrated graphics.

NOTE: Battery life will vary depending on the product model, configuration, loaded applications, features, use, wireless functionality and power management settings. The maximum capacity of the battery will naturally decrease with time and usage. See MobileMark07 battery benchmark www.bapco.com/products/mobilemark2007 for additional details.

System Standby Time

Up to 1 week

Power Conservation

AMD PowerPlay technology (models with discrete graphics)

Hibernation

Standby

ACPI compliance

Docking and Stands

HP 90W Docking Station
HP 120W Advanced Docking Station
HP USB 2.0 Docking Station
HP Essential USB 2.0 Port Replicator
HP LAN and USB Travel Hub

NOTE: Some HP Docking stations may not support every feature of some HP Notebook models. Please refer to the individual docking station documentation for specific information about supported features.

Standard Features (availability may vary by country)

Service and Support	HP Services offers limited 3-year, 1-year and 90-day warranty options depending on country. On-site service and warranty upgrades are also available. HP Care Pack Services extend service contracts beyond the standard warranties. To choose the right level of service for your HP product, use the HP Care Pack Services Lookup Tool at: http://www.hp.com/go/lookuptool. Additional HP Care Pack Services information by product is available at: http://www.hp.com/hps/carepack. NOTE: Certain restrictions and exclusions apply. Consult the HP Customer Support Center for details. http://h20000.www2.hp.com/bizsupport/TechSupport/ProductRoot.jsp.

Options (availability may vary by country)

NOTE: Options/capabilities listed in the QuickSpecs represent those capabilities available through Base Units or Build to Order configurations. The various product features and capabilities will vary in terms of configurable vs. aftermarket options (AMOs). There may be options and capabilities available through CTO that are not available as AMOs.

Memory	HP 1 GB (DDR3 1333 MHz) SODIMM	AT911AA#xxx
	HP 2 GB (DDR3 1333 MHz) SODIMM	AT912AA#xxx
	HP 4 GB (DDR3 1333 MHz) SODIMM	AT913AA#xxx
	HP 8 GB (DDR3 1333 MHz) SODIMM	QP013AA#xxx
Storage	HP 250 GB Pocket Media Drive	FE477AA
	HP Mobile USB DVD	XQ543AA
	HP Mobile USB DVDRW	BU516AA
	HP Upgrade Bay SATA 500 GB 7200 rpm Hard Drive	LX733AA#xxx
	HP Primary SATA 500 GB 7200 rpm Hard Drive	AU098AA#xxx
	HP Upgrade Bay DL DVD+/-RW	LZ835AA
Expansion Solutions	HP 90W Docking Station	VB041AA#xxx
	HP 120W Advanced Docking Station	NZ222AA#xxx
	HP USB 2.0 Docking Station	AY052AA#xxx
	HP Essential USB 2.0 Port Replicator	AQ731AA#xxx
	HP LAN and USB Travel Hub	BM868AA#xxx
	HP Display & Notebook Stand	AW662AA#xxx
	HP Adjustable Display Stand	AW663AA#xxx
	HP Adjustable Dual Display Stand	AW664AA#xxx
Power	HP ST09 Extended Life Notebook Battery	QK639AA
	HP BB09 Ultra Extended Life Notebook Battery	QK640AA
	HP CC06XL Long Life Notebook Battery	QK642AA
	HP CC09 Notebook Battery	QK643AA
	HP 90W Smart AC Adapter	ED495AA#xxx
	HP 90W Smart AC/Auto/Air Combo Adapter	AJ652AA#xxx
	HP 90W Smart Auto/Truck Adapter	ED493AA
	HP 65W Slim Adapter	AX727AA#xxx
	HP 90W Slim Adapter	BT796AA#xxx
Carrying Cases	HP Basic Carrying Case	AJ078AA
	HP Business Nylon Case	BP848AA
	HP Professional Slim Top Load Case	AY530AA

Options (availability may vary by country)

Security	HP Notebook Combo Lock	AY475AA#xxx
	HP Keyed Cable Lock	BV411AA
	HP 14.0-inch Display Privacy Filter	AU100AA#xxx
	HP 15.6-inch Display Privacy Filter	AU103AA#xxx
Input/Output Devices	HP USB Optical Travel Mouse	RH304AA
	HP USB/PS2 Optical 2-Button Scroll Mouse	DC369A
	HP USB Keyboard & Mouse Bundle	RC465AA#xxx
	HP Notebook Projection Companion	AX325AA#xxx

System Unit	**Dimensions** (HxWxD)	HP EliteBook 8460p: 1.25 in (at front) x 13.31 in x 9.11 in 31.8 mm (at front) x 338 mm x 231.3 mm HP EliteBook 8560p: 1.34 in (at front) x 14.72 in x 9.86 in 34.1 mm (at front) x 374 mm x 250.5 mm	
	Weight	HP EliteBook 8460p: Starting at 4.56 lb (2.07 kg) with SSD and weight saver (no optical drive) Starting at 4.95 lb (2.25 kg) with hard drive and DVD-ROM drive HP EliteBook 8560p: Starting at 6.01 lb (2.73 kg) with hard drive and weight saver (no optical drive) Starting at 6.27 lb (2.85 kg) with hard drive and DVD-ROM drive	
	NOTE: Height varies depending upon where on the notebook the measurement is made. Weight varies by configuration and components. Weight includes 3-cell battery and WLAN.		
	Stand-Alone Power Requirements (AC Power)	Nominal Operating Voltage	18.5 V
		Average Operating Power	Integrated graphics: TBD W Discrete graphics: TBD W
		Max Operating Power	< 65 W or < 90 W
	Temperature	Operating	32° to 95° F (0° to 35° C) (not writing optical) 41° to 95° F (5° to 35° C) (writing optical)
		Non-operating	–4° to 140° F (–20° to 60° C)
	Relative Humidity	Operating	10% to 90%, non-condensing
		Non-operating	5% to 95%, 101.6° F (38.7° C) maximum wet bulb temperature
	Shock	Operating	125 G, 2 ms, half-sine
		Non-operating	200 G, 2 ms, half-sine
	Random Vibration	Operating	0.75 grms
		Non-operating	1.50 grms
	Altitude (unpressurized)	Operating	–50 to 10,000 ft (–15.24 to 3,048 m)
		Non-operating	–50 to 40,000 ft (–15.24 to 12,192 m)
	Planned Industry Standard Certifications	UL	Yes
		CSA	Yes
		FCC Compliance	Yes
		ENERGY STAR®	Select models*
		EPEAT	Gold**
		ICES	Yes
		Australia / NZ A-Tick Compliance	Yes

CCC	Yes
Japan VCCI Compliance	Yes
KCC	Yes
BSMI	Yes
CE Marking Compliance	Yes

* Configurations of the HP EliteBook 8460p and HP EliteBook 8560p that are ENERGY STAR qualified are identified as HP EliteBook 8460p ENERGY STAR and HP EliteBook 8560p ENERGY STAR on HP websites and on www.energystar.gov.

** EPEAT Registered Gold in U.S. EPEAT registration varies by country. See www.epeat.net for registration status by country.

NOTE: For accessibility information on HP products, please visit: http://www.hp.com/accessibility.

Audio	SRS Premium Sound	
Hardware	Implementation	IDT 92HD80 High Definition CODEC
	Function Key Volume Controls	Volume up, volume down
	Mute Button	Volume mute button with LED indicator
	Full Duplex	Yes
	Microphone In	Stereo
	Headphone/Line Out	Stereo
	Integrated Microphone	Yes, dual digital microphone array
Audio Output Quality	Frequency Response	20 Hz – 20 kHz
	Signal to Noise Ratio	>85 dB
	Total Harmonic Distortion	0.01%
	Noise Floor	–110 dB
	Play/Record Sampling Rate(s)	8 kHz – 48kHz
	DAC	16, 20 or 24-bit
	ADC	16 or 20-bit
Integrated Stereo Speakers	Power Rating	2 Watts
	Impedance	4 Ohms
Power		

Technical Specifications

HP 90W Smart AC Adapter	Dimensions	5.00 x 1.97 x 1.1 in (12.7 x 5.0 x 2.9 cm)	
	Weight	0.82 lb (370 g)	
	Input	100 to 240 VAC	
		Input Efficiency	87% min at 115 VAC
		Input frequency range	47 to 63 Hz
		Input AC current	1.5 A at 90 VAC, 0.75 A at 180 VAC PFC Version
			2.4 A at 90 VAC, 1.2 A at 180 VAC NON PFC Version
	Output	Output power	90W
		DC output	19.0V
		Hold-up time	5 msec at 115 VAC input
		Output current limit	<11A, Over voltage protection- 29V max automatic shutdown
	Connector	3 pin/grounded, mates with interchangeable cords	
	Environmental Design	Operating temperature	32° to 104° F (0° to 40° C)
		Non-operating (storage) temperature	-4° to 149° F (-20° to 65° C)
		Altitude	0 to 10,000 ft (0 to 3,048 m)
		Humidity	20% to 80%
		Storage Humidity	10% to 90%
	EMI and Safety Certifications	CE Mark - full compliance with LVD and EMC directives; Worldwide safety standards - IEC60950, EN60950, UL60950, Class1, SELV; Agency approvals - C-UL-US, NORDICS, DENAN, EN55022 Class B, FCC Class B, CISPR22 Class B, CCC, NOM-1 NYCE; MTBF- over 200,000 hours at 25°C ambient condition.	

HP 65W Smart AC Adapter	Dimensions	4.17 x 1.85 x 1.1 in (10.6 x 4.7 x 2.8 cm)	
	Weight	0.62 lb (280 g)	
	Input	100 to 240 VAC	
		Input Efficiency	87% min at 115 VAC
		Input frequency range	47 to 63 Hz
		Input AC current	1.7 A at 90 VAC, 0.85 A at 180 VAC
	Output	Output power	65W
		DC output	18.5V
		Hold-up time	5 msec at 115 VAC input
		Output current limit	<11A, Over voltage protection- 29V max automatic shutdown
	Connector	3 pin/grounded, mates with interchangeable cords	
	Environmental Design	Operating temperature	32° to 104° F (0° to 40° C)
		Non-operating (storage) temperature	-4° to 149° F (-20° to 65° C)
		Altitude	0 to 10,000 ft (0 to 3,048 m)

		Humidity	20% to 80%
		Storage Humidity	10% to 90%
	EMI and Safety Certifications	CE Mark - full compliance with LVD and EMC directives; Worldwide safety standards - IEC60950, EN60950, UL60950, Class1, SELV; Agency approvals - C-UL-US, NORDICS, DENAN, EN55022 Class B, FCC Class B, CISPR22 Class B, CCC, NOM-1 NYCE; MTBF - over 200,000 hours at 25°C ambient condition.	

Optional HP BB09 Ultra Extended Life Notebook Battery	Dimensions (H x W x L)	1.2 x 5.9 x 11.4 in (3x15x29cm)	
	Weight (max)	1.5lb, (.682kg)	
	Cells/Type	Lithium-Ion	
	Energy	Voltage	11.25V
		Amp-hour capacity	8.85Ah
		Watt-hour capacity	100Wh
	Temperature	Operating (Charging)	32° to 113° F (0° to 45° C)
		Operating (Discharging)	14° to 122° F(-10° to 50° C)
		Non-operating	-4° to 122° F (-20° to 50° C)
	Battery Re-Charge Time	System in OFF or Standby Mode	3.5 to 5 hours
		System ON	4 to 7 hours
	Fuel Gauge LED	Yes	
	Warranty	1 year	
	Optional Travel Battery Available	NA	

Optional HP ST09 Extended Life Notebook Battery	Dimensions (H x W x L)	1.2 x 6.1 x 12 in (3x15.5x30.5cm)	
	Weight (max)	1.2lb, (.550kg)	
	Cells/Type	Lithium-Ion Polymer	
	Energy	Voltage	11.1V
		Amp-hour capacity	6.6Ah
		Watt-hour capacity	73Wh
	Temperature	Operating (Charging)	32° to 113° F (0° to 45° C)
		Operating (Discharging)	14° to 122° F(-10° to 50° C)
		Non-operating	-4° to 122° F (-20° to 50° C)
	Battery Re-Charge Time	System in OFF or Standby Mode	3.5 to 5 hours
		System ON	4 to 7 hours
	Fuel Gauge LED	Yes	
	Warranty	1 year	
	Optional Travel Battery Available	NA	

Technical Specifications

Optional HP 6-cell (55 WHr) Long Life Battery	Dimensions (H x W x L)	0.8 x 1.8 x 8.0in (2.0 x 4.7 x 20.5cm)	
	Weight (max)	.72lb, (.323kg)	
	Cells/Type	Lithium-Ion	
	Energy	Voltage	10.8V
		Amp-hour capacity	5.1Ah
		Watt-hour capacity	55Wh
	Temperature	Operating (Charging)	32° to 113° F (0° to 45° C)
		Operating (Discharging)	14° to 122° F(-10° to 50° C)
		Non-operating	-4° to 122° F (-20° to 50° C)
	Battery Re-Charge Time	System in OFF or Standby Mode	2.5 hours
		System ON	3 to 5 hours
	Fuel Gauge LED	No	
	Warranty	3 years	
	Optional Travel Battery Available	Yes	
HP 9-cell (100 WHr) Lithium-Ion Primary battery	Dimensions (H x W x L)	0.8 x 2.4 x 8.1in (2 x 6.6 x 20.5cm)	
	Weight (max)	1.1lb, (.488kg)	
	Cells/Type	Lithium-Ion	
	Energy	Voltage	11.25V
		Amp-hour capacity	8.85Ah
		Watt-hour capacity	100Wh
	Temperature	Operating (Charging)	32° to 113° F (0° to 45° C)
		Operating (Discharging)	14° to 122° F(-10° to 50° C)
		Non-operating	-4° to 122° F (-20° to 50° C)
	Battery Re-Charge Time	System in OFF or Standby Mode	3.5 to 5 hours
		System ON	4 to 7 hours
	Fuel Gauge LED	No	
	Warranty	1 year	
	Optional Travel Battery Available	Yes	

Technical Specifications

6-Cell (62 WHr) Lithium-on battery	Dimensions (HxWxL)	0.8 x 2.0 x 8.3 in (2.0 x 5.1 x 21.1 cm)	
	Weight	0.72 lb (0.325 kg)	
	Cells/Type	6-cell Lithium-Ion	
	Energy	Watt-hour Capacity	62Wh
	Temperature	Operating (Charging)	32° to 113° F (0° to 45° C)
		Operating (Discharging)	14° to 140° F (–10° to 60° C)
		Non-operating	–4° to 140° F (–20° to 60° C)
	Battery Re-Charge Time	System in OFF Mode or Standby	2.5 hours
		System ON	3 to 5 hours (depending on system power consumption)

Displays

15.6-inch LED HD (1366 x 768) anti-glare	Dimensions (W x H)	13.54 x 7.59 in (34.4 x 19.4 cm)	
	Diagonal Size	15.6 in (39.6cm)	
	Surface Treatment	Anti-glare	
	Contrast Ratio	300:1 (typical)	
	Refresh Rate	60 Hz	
	Brightness	200 nit (typical)	
	Pixel Resolution	Pitch	0.252 mm
		Format	1366 x 768
		Configuration	RGB Stripe
	Backlight	LED	
	PPI	100 ppi	
	Viewing Angle	±30° Horizontal, ±10° Vertical (minimum) 30/30/20/10 (Left/Right/Down/Up) (minimum) or 45/45/35/25 (Left/Right/Down/Up) (typical)	

Technical Specifications

15.6-inch LED HD+ WVA (1600 x 900) anti-glare	Dimensions (W x H)	13.54 x 7.59 in (34.4 x 19.4 cm)	
	Diagonal Size	15.6 in (39.6cm)	
	Surface Treatment	Anti-glare	
	Contrast Ratio	300:1 (typical)	
	Refresh Rate	60 Hz	
	Brightness	200 nit (typical)	
	Pixel Resolution	Pitch	0.215 mm
		Format	1600 x 900
		Configuration	RGB Stripe
	Backlight	LED	
	PPI	118 ppi	
	Viewing Angle	±60° Horizontal, ± 50° Vertical (minimum) or ±70° Horizontal, ±60° Vertical (typical)	

14.0-inch LED HD (1366 x 768) anti-glare	Dimensions (W x H)	12.74 x 7.56 in (32.4 x 19.2 cm)	
	Diagonal Size	14.0 in (35.6cm)	
	Surface Treatment	Anti-glare	
	Contrast Ratio	400:1 (typical)	
	Refresh Rate	60 Hz	
	Brightness	200 nit (typical)	
	Pixel Resolution	Pitch	0.227 mm
		Format	1366 x 768
		Configuration	RGB Stripe
	Backlight	LED	
	PPI	112 ppi	
	Viewing Angle	±30° Horizontal, ±10° Vertical (minimum) 30/30/20/10 (Left/Right/Down/Up) (minimum) or 45/45/35/25 (Left/Right/Down/Up) (typical)	

Technical Specifications

14.0-inch LED HD+ (1600 x 900) anti-glare	Dimensions (W x H)	12.74 x 7.56 in (32.4 x 19.2 cm)	
	Diagonal Size	14.0 in (35.6cm)	
	Surface Treatment	Anti-glare	
	Contrast Ratio	300 (min)	
	Refresh Rate	60 Hz	
	Brightness	200 nits (typ)	
	Pixel Resolution	Pitch	0.1935mm
		Format	1600 x 900
		Configuration	RGB Stripe
	Backlight	LED	
	PPI	131 ppi	
	Viewing Angle	30/30/20/10 (Left/Right/Down/Up) (minimum)	

Internal Storage

750 GB 7200 rpm SATA Hard Drive	Drive Weight	0.25 lbs (115g)	
	Capacity	750 GB	
	Height	0.37 in (9.5 mm)	
	Width	2.75 in (70 mm)	
	Interface	ATA-8, SATA 2.6, 3.0 Gb/s, NCQ	
	Transfer Rate	Synchronous (maximum)	300 MB/s (Drive Capability)
	Seek Time (typical reads, including settling)	Single Track	1.5 ms
		Average	11 ms
		Maximum	22 ms
	Rotational Speed	7200 rpm	
	Logical Blocks	1,465,149,168	
	Operating Temperature	32° to 140° F (0° to 60° C) [case temp]	
	Features	ATA Security	

Technical Specifications

500 GB 7200 rpm SATA Hard Drive	Drive Weight	0.25 lbs (115g)	
	Capacity	500 GB	
	Height	0.37 in (9.5 mm)	
	Width	2.75 in (70 mm)	
	Interface	ATA-8, SATA 2.6, 3.0 Gb/s, NCQ	
	Transfer Rate	Synchronous (maximum)	300 MB/s (Drive Capability)
	Seek Time (typical reads, including settling)	Single Track	1.5 ms
		Average	11 ms
		Maximum	22 ms
	Rotational Speed	7200 rpm	
	Logical Blocks	976,773,168	
	Operating Temperature	32° to 140° F (0° to 60° C) [case temp]	
	Features	ATA Security	

320 GB 7200 rpm SATA Hard Drive	Drive Weight	0.25 lbs (115 g)	
	Capacity	320 GB	
	Height	0.37 in (9.5 mm)	
	Width	2.75 in (70 mm)	
	Interface	ATA-8, SATA 2.6, 3.0 Gb/s, NCQ	
	Transfer Rate	Synchronous (maximum)	300 MB/s (Drive Capability)
	Seek Time (typical reads, including settling)	Single Track	1.5 ms
		Average	11 ms
		Maximum	22 ms
	Rotational Speed	7200 rpm	
	Logical Blocks	625,142,448	
	Operating Temperature	32° to 140° F (0° to 60° C) [case temp]	
	Features	ATA Security	

Technical Specifications

250 GB 7200 rpm SATA Hard Drive	Drive Weight	0.25 lbs (115g)	
	Capacity	250 GB	
	Height	0.37 in (9.5 mm)	
	Width	2.75 in (70 mm)	
	Interface	ATA-8, SATA 2.6, 3.0 Gb/s, NCQ	
	Transfer Rate	Synchronous (maximum)	300 MB/s (Drive Capability)
	Seek Time (typical reads, including settling)	Single Track	1.5 ms
		Average	11 ms
		Maximum	22 ms
	Rotational Speed	7200 rpm	
	Logical Blocks	488,397,168	
	Operating Temperature	32° to 140° F (0° to 60° C) [case temp]	
	Features	ATA Security	

160 GB 2.5-inch SATA Solid State Drive	Drive Weight	78 Grams	
	Capacity	160 GB	
	Height	0.276 in (7 mm)	
	Width	2.76 in (70 mm)	
	Interface	SATA Gen 2	
	Performance	Maximum Sequential Read	Maximum Sequential Write
		250 MB/s	100 MB/s
	Logical Blocks	312,581,808	
	Operating Temperature	32° to 158°F (0° to 70°C) [case temp]	
	Features	ATA Security; ATA-7; SATA 2.6; DIPM; TRIM	

128 GB 2.5-inch SATA Solid State Drive	Drive Weight	75 Grams	
	Capacity	128 GB	
	Height	0.276 in (7 mm)	
	Width	2.76 in (70 mm)	
	Interface	SATA Gen 2	
	Performance	Maximum Sequential Read	Maximum Sequential Write
		250 MB/s	140 MB/s
	Logical Blocks	250,069,680	
	Operating Temperature	32° to 158°F (0° to 70°C) [case temp]	
	Features	ATA Security; ATA-7; SATA 2.6; DIPM; TRIM	

Optical Drives

DVD-ROM Drive	Access Times	Random	< 140 ms CD (typical) < 160 ms DVD (typical)
	Max Data Transfer Rate	24X CD-ROM 8X-DVD	
	Transfer Mode	UDMA Mode 5	
	Interface	Gen 1 SATA	
	Supported Media (read)	CD-DA, CD-TEXT, CD-ROM, CD-ROM XA, MIXED MODE CD, CD-I, CD-I Bridge (Photo-CD, Video CD), Multisession CD (Photo-CD, CD-EXTRA, Portfolio, CD-R, CD-RW), CD-R, CD-RW, DVD-ROM (DVD-5, DVD-9, DVD-10, DVD-18), DVD-R, DVD-RW, DVD+R, DVD+RW, DVD-RAM	
	Supported Media (write)	None	
	Max Media Capacity (read)	8.5GB	
	Transport	Tray Loading	

DVD+/-RW SuperMulti DL Drive	Access Times	Random	<140ms CD (typical) < 160 ms DVD (typical)
	Max Data Transfer Rate	24X CD-ROM 8X DVD 24X CD-R 24X CD-RW 8X DVD+R 8X DVD+RW 8X DVD-R 6X DVD-RW 6X - DVD+R Dual Layer 6X - DVD-R Dual Layer 5X DVD-RAM	
	Transfer Mode	UDMA Mode 5	
	Interface	Gen 1 SATA	
	Supported Media (read)	CD-DA, CD-TEXT, CD-ROM, CD-ROM XA, MIXED MODE CD, CD-I, CD-I Bridge (Photo-CD, Video CD), Multisession CD (Photo-CD, CD-EXTRA, Portfolio, CD-R, CD-RW), CD-R, CD-RW, DVD-ROM (DVD-5, DVD-9, DVD-10, DVD-18), DVD-R, DVD-RW, DVD+R, DVD+RW, DVD-RAM	
	Supported Media (write)	CD-R, CD-RW, DVD+R, DVD+RW, DVD-R, DVD-RW, DVD-RAM, DVD+R DL, DVD-R DL	
	Max Media Capacity (read)	8.5 GB	
	Max Media Capacity (write)	8.5 GB	
	Transport	Tray Loading	

Blu-ray R/RE DVD+/-RW SuperMulti DL Drive	Access Times	Random	<165 ms CD-ROM (typical) <185 ms DVD-ROM (typical) <205 ms BD-ROM (typical)
	Max Data Transfer Rate	24X CD-ROM 8X DVD-ROM 24X CD-R 16X CD-RW 8X DVD+R 8X DVD+RW 8X DVD-R 6X DVD-RW 6X DVD+R Dual Layer 6X DVD-R Dual Layer 5X DVD-RAM 6X BD-ROM 6X BD-R 2X BD-RE	
	Transfer Mode	UDMA Mode 5	
	Interface	Gen 1 SATA	
	Supported Media (read)	CD-DA, , CD-TEXT, CD-ROM, CD-ROM XA, MIXED MODE CD, CD-I, CD-I Bridge (Photo-CD, Video CD), Multisession CD (Photo-CD, CD-EXTRA, Portfolio, CD-R, CD-RW), CD-R, CD-RW, DVD-ROM (DVD-5, DVD-9, DVD-10, DVD-18), DVD-R, DVD-RW, DVD+R, DVD+RW. DVD-RAM, BD-ROM, BD-R, BD-RE	
	Supported Media (write)	CD-R, CD-RW, DVD+R, DVD+R DL, DVD+RW, DVD-R, DVD-R DL, DVD-RW, DVD-RAM, BD-R, BD-RE	
	Max Media Capacity (read)	50.0 GB	
	Max Media Capacity (write)	50.0 GB	
	Transport	Tray Loading	

Security

Technical Specifications

HP Fingerprint Sensor (optional)	Mobile Voltage Operation	3.0V-3.6V Single Supply
	Operating Temperature	32° – 158°F (0° – 70°C)
	Current Consumption @ 3.3V	Less than 70 mA peak imaging and scrolling Less than 25 mA hardware finger detection Advanced Power Management
	High-Rate Image Capture	Up to 240 image frames /sec
	ESD Resistance	IEC 61000-4-2 Level 4 (±15KV)
	Detection Matrix	192 x 16 Pixels 9.7 mm x 0.81 mm 500 ppi High-Resolution Images

Communications

Intel® 82579LM Gigabit Network Connection	Ethernet Features	10 Mbit/s operation (10BASE-T; IEEE 802.3i; IEEE 802.3 clauses 13-14) 100 10 Mbit/s operation (10BASE-T; IEEE 802.3i; IEEE 802.3 clauses 13-14) 100 Mbit/s operation (100BASE-TX; IEEE 802.3u; IEEE 802.3 clauses 21-30) 1000 Mbti/s operation (1000BASE-T; IEEE 802.3ab; IEEE 8023. Clauses 40) Auto-Negotiation (Automatic Speed Selection) Full Duplex Operation at all Speeds, Half Duplex operation at 10 and 100 Mbit/s IEEE 802.1p QoS (Quality of Service) Support IEEE 802.1q VLAN support IEEE 802.3x Flow Control (IEEE 802.3 clauses 31-32; configurable) IEEE 802.3az EEE(Energy Efficient Ethernet) Jumbo Frame 9K Auto MDI/MDIX Crossover cable detection
	Power Management	ACPI compliant - multiple power modes Energy Detect Low Power Mode(Green Ethernet)
	Performance Features	TCP/IP/UDP Checksum Offload (configurable) Protocol Offload(ARP & NS) Large send offload and Giant send offload Receiving Side Scaling MACSec Offload (802.3ae) Intel vPro iSCSI Boot
	Manageability	Wake-on-LAN from standby and hibernation (Magic Packet and Microsoft Wake-Up Frame); Wake-on-LAN from off (Magic Packet only) PXE 2.1 Remote Boot Statistics Gathering (SNMP MIB II, Ethernet-like MIB, Ethernet MIB (802.3x, clause 30)) Comprehensive diagnostic and configuration software suite Virtual Cable Doctor for Ethernet cable status

	Interface	PCI Express 1.1 x1 to fully support ASPM L0s/L1 and CLKREQ. NOTE: Intel 82579 PCIe interface is not PCIe compliant. It operates at half of PCIe specification V1.1 (2.5GT/S) speed.
	NIC Device Driver Name	Intel 82579LM/82579V Ethernet Network Connection
V.92 56K Data/Fax Modem	Form Factor	MDC 1.5 Daughtercard
	Power Management Support	APM Revision 1.2, ACPI
	Approvals/ Certifications	UL, CSA, NEMKO, CCIB, Industry Canada, FCC Part 68, CTR21, FCC Part 15 Class B, Canadian ICES-003 Class B, C.I.S.P.R.22, Australian ACA, CE Mark, Other Countries
	Data Mode Capabilities	V.92 data V.8bis V.80 V44, V.42bis, MNP5 (Compression) V.42 (LAPM, MNP2-4) (Error Correction) Optional symbol rates: 2800, 3429 Asymmetric Symbol rates Synchronous primary channel data signaling rates: 3600, 31200 Automatic rate re-negotiation V.34 V.32bis V.32 V.23 V.22bis V.22 V.21 Bell 212A Bell 103J
	Fax Mode Capabilities	TIA/EIA-578-B (Class 1) T.30, T.4 (Group 3) V.17 V.29 V.27ter V.21 Channel 2 T.31
	Command Set	V.250 (Partial) TIA-602 Identification: +GMI, +GMM, +GMR Port control: +IPR, +ICF, +IFC, +ILRR Modulation: +MS, +MR, +MA Error control: +ES, +ER, +EB, +ESR, +ETBM Data compression: +DS, +DR V.251

Technical Specifications

HP un2430 EV-DO/HSPA Mobile Broadband Module	Technology/Operating Bands	GSM/GPRS/EDGE: 850MHz(Cell), 900MHz(EGSM), 1800MHz(DCS), 1900MHz (PCS) UMTS/WCDMA with receive diversity: 2100MHz (UTRA FDD Band I), 1900MHz (UTRA FDD Band II), AWS (UTRA FDD Band IV), 900MHz(UTRA FDD Band VIII), 850MHz (UTRA FDD Band V) 1xEVDO/1xRTT with receive diversity: 850MHz (Band Class0-Cell), 1900MHz (Band Class1-PCS)
	Wireless Protocol Standards	GSM/GPRS/EDGE: Class A, Multi-slot class 10 operation, coding schemes CS1 - CS4 and MSC1 - MSC9. UMTS/WCDMA: Release 99 and Release 6 CDMA: 1xEVDO Release 0 and Release A, IS-95A, IS-95B, IS-856, IS-2000
	Wireless Parametric Standards	Meets or exceeds TIA/EIA IS-98-D
	Maximum Data Rates	UMTS (HSPA) - 14.4 Mbps (Download), 5.76Mbps (Upload) CDMA (EVDO Release A) - 3.1 Mbps (Download), 1.8Mbps (Upload)
	GPS	Standalone GPS enabled gpsOneXTRATM™
	GPS Bands	L1 - 1575.42 MHz
	Maximum Output Power	GSM/GPRS/EDGE: 32dBm (+/-1) WCDMA: 24dBm (+0.7/-2.3) CDMA: 24dBm (+0.7/-2)
	Maximum Power Consumption	2750mA (peak); 1100mA (average)
	Power Consumption, Idle Not Connected	20 mA
	Power Management	USB selective suspend Integrated notebook wireless button
	Antenna Type	Dual high efficiency 5 band antennae with spatial diversity, mounted in the display enclosure
	Form Factor	PCI-Express MiniCard, USB 2.0 interface
	Weight	11.5 g
	Dimensions (Length x Width x Thickness)	2.01 x 1.18 x 0.18 in (51 x 30 x 5 mm)
	Voltage, Operating	3.3v +/- 10%
	Temperature, Operating (from TIA/EIA/IS-98-D)	-22° to 158° F (-30° to 70° C) (full RF performance) -22° to 167° F (-30° to 75° C) (reduced RF performance)
	Temperature, Non-operating, 96 hours (from MIL-STD 202 Method 108)	-40° to 185° F (-40° to 85° C)
	Humidity, Non-operating	95% relative humidity for 48 hours @ 185° F (85° C) (non-condensing)
	Configuration Utilities	HP Connection Manager
	LED Activity	LED Off - Radio Off; Solid LED On - Radio On
Intel Centrino Advanced-	Wireless LAN Standards	IEEE 802.11a

Technical Specifications

N 6205		IEEE 802.11b IEEE 802.11g IEEE 802.11n* * In countries where 802.11n is not allowed, this capability is not enabled.
	Interoperability	Wi-Fi certified Cisco Compatible Extensions Program compliant with Microsoft Windows Vista and XP (details at: http://www.hp.com/go/notebooks/WLAN)
	Frequency Band	2.4 GHz and 5GHz
	Antenna Structure	2 transmit; 2 receive (2x2)
	Data Rates	802.11a: 6, 9, 12, 18, 24, 36, 48, 54 Mbps 802.11b: 1, 2, 5.5, 11 Mbps 802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps 802.11n: 66 possible data rates, ranging from 6 Mbps to 300 Mbps, depending on the combination of Bandwidth, Modulation Coding Scheme, and Guard Interval used, as defined in IEEE 802.11n specification
	Modulation	Direct Sequence Spread Spectrum DBPSK, DQPSK, CCK, OFDM, BPSK, QPSK, 16-QAM, 64-QAM
	Security[1]	Authentication: WPA and WPA2, 802.1x (EAP_TLS, TTLS, PEAP, LEAP, EAP-FAST) Authentication Protocols: PAP, CHAP, TLS, GTC, MS-CHAP, MS-CHAPv2 Encryption: 64 and 128-bit WEP, AES-CCMP, CKIP, TKIP Support for Cisco Security Features (proven compatibility with Cisco Aironet infrastructure products through the Cisco Compatible Extensions Program Version 4) with Microsoft Windows Vista and XP only.
	Sub-channels	Multinational support with frequency bands and channels compliant to local regulations.
	Media Access Protocol	CSMA/CA (Collision Avoidance) with ACK
	Network Architecture Models	Ad-hoc (Peer to Peer) Infrastructure (Access Point Required)
	Roaming	IEEE 802.11 compliant roaming between 2.4GHz band Access Points
	Output Power (for CCK and OFDM)[2]	17 dBm max
	Power Consumption	Transmit: 2.3 Watts (max, with two spatial streams) Receive: 1 Watt (max with two spatial streams) Idle mode[3]: 35 mW (average) Radio off: 20 mW (max)
	Power Management	ACPI compliant power management 802.11 compliant power saving mode
	Receiver Sensitivity[4]	54 Mbps: -76 dBm, 6 Mbps: -92 dBm
	Antenna Connections	2 U.FL type connectors, 50 ohm nominal impedance
	Form Factor	PCI-Express Half-MiniCard
	Weight	0.0075 lb (3.4 g)
	Dimensions	0.12 x 1.06 x 1.18 in (3.1 x 26.8 x 30.0 mm)
	Operating Voltage	3.3V +/- 9%

Temperature	Operating Non-operating	32° to 176° F (0° to 80° C) -40° to 176° F (-40° to 80° C)
Humidity	Operating Non-operating	10% to 90% (non-condensing) 5% to 90% (non-condensing)
Altitude	Operating Non-operating	0 to 10,000 ft (3,048 m) 0 to 50,000 ft (15,240 m)
LED Activity	LED Off - Radio OFF; Solid LED On - Radio ON	

1. Check latest software/driver release for updates on supported security features.
2. Maximum output power may vary by country according to local regulations.
3. In Power Save Polling mode and on battery power.
4. Receiver sensitivity is measured at a packet error rate of 8% for 802.11b (CCK modulation) and a packet error rate of 10% for 802.11a/g (OFDM modulation).
5. WLAN supplier's client utility is required for Cisco Compatible Extensions support with Microsoft Windows XP. WLAN may also be compatible with certain third-party software supplicants. WLAN supplier IHV extensions required for Cisco Compatible Extensions support for Microsoft Windows Vista.

Intel Centrino Ultimate-N 6300	**Wireless LAN Standards**	IEEE 802.11a IEEE 802.11b IEEE 802.11g IEEE 802.11n* * In countries where 802.11n is not allowed, this capability is not enabled.
	Interoperability	Wi-Fi certified (802.11bgn only) Cisco Compatible Extensions Program compliant (802.11bgn only) with Microsoft Windows Vista and XP (details at: http://www.hp.com/go/notebooks/WLAN)
	Frequency Band	2.4 GHz and 5GHz
	Antenna Structure	3 transmit; 3 receive (3x3)
	Data Rates	802.11a: 6, 9, 12, 18, 24, 36, 48, 54 Mbps 802.11b: 1, 2, 5.5, 11 Mbps 802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps 802.11n: many possible data rates, ranging from 6 Mbps to 450 Mbps, depending on the combination of Bandwidth, Modulation Coding Scheme, and Guard Interval used, as defined in IEEE 802.11n specification
	Modulation	Direct Sequence Spread Spectrum DBPSK, DQPSK, CCK, OFDM, BPSK, QPSK, 16-QAM, 64-QAM
	Security[1]	Authentication: WPA and WPA2, 802.1x (EAP_TLS, TTLS, PEAP, LEAP, EAP-FAST) Authentication Protocols: PAP, CHAP, TLS, GTC, MS-CHAP, MS-CHAPv2 Encryption: 64 and 128-bit WEP, AES-CCMP, CKIP, TKIP Support for Cisco Security Features (proven compatibility with Cisco Aironet infrastructure products through the Cisco Compatible Extensions Program Version 4) with Microsoft Windows Vista and XP only.

Sub-channels	Multinational support with frequency bands and channels compliant to local regulations.	
Media Access Protocol	CSMA/CA (Collision Avoidance) with ACK	
Network Architecture Models	Ad-hoc (Peer to Peer) Infrastructure (Access Point Required)	
Roaming	IEEE 802.11 compliant roaming between Access Points	
Output Power (for CCK and OFDM)[2]	17 dBm max	
Power Consumption	Transmit: 2.4 Watts (max, with three spatial streams) Receive: 1.4 Watts (max with three spatial streams) Idle mode[3]: 35 mW (average) Radio off: 20 mW (max)	
Power Management	ACPI compliant power management 802.11 compliant power saving mode	
Receiver Sensitivity[4]	54 Mbps: -76 dBm, 6 Mbps: -92 dBm	
Antenna Connections	3 U.FL type connectors, 50 ohm nominal impedance	
Form Factor	PCI-Express Half-MiniCard	
Weight	0.0075 lb (3.4 g)	
Dimensions	0.12 x 1.06 x 1.18 in (3.1 x 26.8 x 30.0 mm)	
Operating Voltage	3.3V +/- 9%	
Temperature	Operating	32° to 176° F (0° to 80° C)
	Non-operating	-40° to 176° F (-40° to 80° C)
Humidity	Operating	10% to 90% (non-condensing)
	Non-operating	5% to 90% (non-condensing)
Altitude	Operating	0 to 10,000 ft (3,048 m)
	Non-operating	0 to 50,000 ft (15,240 m)
LED Activity	LED Off - Radio OFF; Solid LED On - Radio ON	

1. Check latest software/driver release for updates on supported security features.
2. Maximum output power may vary by country according to local regulations.
3. In Power Save Polling mode and on battery power.
4. Receiver sensitivity is measured at a packet error rate of 8% for 802.11b (CCK modulation) and a packet error rate of 10% for 802.11a/g (OFDM modulation).
5. WLAN supplier's client utility is required for Cisco Compatible Extensions support with Microsoft Windows XP. WLAN may also be compatible with certain third-party software supplicants. WLAN supplier IHV extensions required for Cisco Compatible Extensions support for Microsoft Windows Vista.

Atheros HB112AGN 802.11a/b/g/n 3x3 WiFi Adapter	**Wireless LAN Standards**	IEEE802.11a IEEE 802.11b IEEE 802.11g IEEE 802.11n
	Interoperability	Wi-Fi certified
	Frequency Band	2.4 GHz and 5GHz

Data Rates	802.11a: 6, 9, 12, 18, 24, 36, 48, 54 Mbps 802.11b: 1, 2, 5.5, 11 Mbps 802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps 802.11n: many possible data rates, ranging from 6 Mbps to 450 Mbps, depending on the combination of Bandwidth, Modulation Coding Scheme, and Guard Interval used, as defined in IEEE 802.11n specification	
Modulation	Direct Sequence Spread Spectrum DBPSK, DQPSK, CCK, OFDM, BPSK, QPSK, 16-QAM, 64-QAM	
Security[1]	Supports 64- and 128-bit WEP, WPA, WPA2, hardware-accelerated AES, 802.1x authentication types EAP-TLS, EAP-TTLS, PEAP-GTC, PEAP-MSCHAPv2, LEAP, EAP-FAST.	
Sub-channels	Multinational support with frequency bands and channels compliant to local regulations.	
Media Access Protocol	CSMA/CA (Collision Avoidance) with ACK	
Network Architecture Models	Ad-hoc (Peer to Peer) Infrastructure (Access Point Required)	
Roaming	IEEE 802.11 compliant roaming between access points	
Output Power (for CCK and OFDM)[2]	17 dBm, nominal	
Output Power (for OFDM; power varies by data rate)[2]	15 dBm, nominal	
Power Consumption	Transmit: 2.0 W (max) Receive: 1.5 W (max) Associated to Access Point, Idle: 300 mW nominal Wireless Button Off: 75 mW nominal	
Power Management	ACPI compliant power management 802.11 compliant power saving mode	
Receiver Sensitivity[3]	54 Mbps: -75 dBm, 11 Mbps: -88 dBm , 1 Mbps: -93 dBm	
Antenna type	High efficiency antenna with spatial diversity, mounted in the display enclosure	
Form Factor	PCI-Express Half-MiniCard	
Weight	0.013 lb (6 g)	
Dimensions	0.19 x 1.06 x 1.18 in (4.75 x 26.8 x 30 mm)	
Operating Voltage	3.3v +/- 9%	
Temperature	Operating Non-operating	14° to 149° F (-10° to 65° C) -40° to 176° F (-40° to 80° C)
Humidity	Operating Non-operating	10% to 90% (non-condensing) 5% to 95% (non-condensing)
Altitude	Operating Non-operating	0 to 10,000 ft (3,048 m) 0 to 50,000 ft (15,240 m)
LED Activity	LED Off - Radio OFF; Solid LED On - Radio ON	

1. Check latest software/driver release for updates on supported security features.
2. Maximum output power may vary by country according to local regulations.
3. Receiver sensitivity is measured at a packet error rate of 8% for 802.11b (CKK modulation) and a packet error rate of 10% for 802.11a/g (OFDM modulation).

Broadcom 43224AGN 802.11a/b/g/n WiFi Adapter	Wireless LAN Standards	IEEE 802.11a IEEE 802.11b IEEE 802.11g IEEE 802.11n*
	Interoperability	Wi-Fi certified (802.11abg only) Cisco Compatible Extensions Program compliant (802.11abg only) with Microsoft Windows Vista and XP (details at: http://www.hp.com/go/notebooks/WLAN)
	Frequency Band	2.4 GHz and 5 GHz
	Data Rates	802.11b: 1, 2, 5.5, 11 Mbps 802.11a/g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps 802.11n: 6, 6.5, 9, 12, 13, 13.5, 18, 19.5, 24, 26, 27, 36, 39, 40.5, 48, 52, 54, 58.5, 65, 78, 81, 104, 108, 117, 121.5, 130, 135, 162, 216, 243, 270, 300 Mbps
	Frequency Support	20 MHz: 2.4 GHz and 5 GHz bands 40 MHz: 2.4 GHz and 5 GHz bands
	Modulation	Direct Sequence Spread Spectrum DBPSK, DQPSK, CCK, OFDM, BPSK, QPSK, 16-QAM, 64-QAM
	Security[1]	Supports 64- and 128-bit WEP, WPA, WPA2, hardware-accelerated AES, 802.1x authentication types EAP-TLS, EAP-TTLS, PEAP-GTC, PEAP-MSCHAPv2, LEAP, EAP-FAST. Support for Cisco Security Features (proven compatibility with Cisco Aironet infrastructure products through the Cisco Compatible Extensions Program Version 4) with Microsoft Windows Vista and XP only.
	Sub-channels	Multinational support with frequency bands and channels compliant to local regulations.
	Media Access Protocol	CSMA/CA (Collision Avoidance) with ACK
	Network Architecture Models	Ad-hoc (Peer to Peer) Infrastructure (Access Point Required)
	Roaming	IEEE 802.11 compliant roaming between access points
	Output Power (for CCK)[2]	17 dBm , nominal
	Output Power (for OFDM; power varies by data rate)[2]	15 dBm , nominal
	Power Consumption	Idle associated: 250 mW Idle unassociated: 150 mW Transmit/Receive 20 MHz channel: 2.0 W (max) Transmit/Receive 40 MHz channel: 2.0 W (max)
	Power Management	ACPI compliant power management 802.11 compliant power saving mode
	Receiver Sensitivity[3]	270 Mbps: -61dBm, , 54 Mbps: -72 dBm, 11 Mbps: -85 dBm , 1 Mbps: -92 dBm
	Antenna type	High efficiency dual band antenna with spatial diversity, mounted in the display enclosure

Form Factor	PCI-Express Half-MiniCard	
Weight	0.013 lb (6 g)	
Dimensions	0.19 x 1.06 x 1.18 in (4.75 x 26.8 x 30 mm)	
Operating Voltage	3.3v +/- 10%	
Temperature	Operating	14° to 149° F (-10° to 65° C)
	Non-operating	-40° to 176° F (-40° to 80° C)
Humidity	Operating	10% to 90% (non-condensing)
	Non-operating	5% to 95% (non-condensing)
Altitude	Operating	0 to 10,000 ft (3,048 m)
	Non-operating	0 to 50,000 ft (15,240 m)
LED Activity	LED Off - Radio OFF; Solid LED On - Radio ON	

1. Check latest software/driver release for updates on supported security features.
2. Maximum output power may vary by country according to local regulations.
3. Receiver sensitivity is measured at a packet error rate of 8% for 802.11b (CCK modulation) and a packet error rate of 10% for 802.11a/g (OFDM modulation).
4. WLAN supplier's client utility is required for Cisco Compatible Extensions support with Microsoft Windows XP. WLAN may also be compatible with certain third-party software supplicants. WLAN supplier IHV extensions required for Cisco Compatible Extensions support for Microsoft Windows Vista.

Broadcom 4313GN 802.11b/g/n WiFi Adapter

Wireless LAN Standards	IEEE 802.11b IEEE 802.11g IEEE 802.11n
Interoperability	Wi-Fi certified Cisco Compatible Extensions Program compliant with Microsoft Win7, Vista and XP (details at: http://www.hp.com/go/notebooks/WLAN)
Frequency Band	2.4 GHz
Data Rates	802.11b: 1, 2, 5.5, 11 Mbps 802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps 802.11n: 6.5, 7.2, 13, 14.4, 19.5, 21.7, 26, 28.9, 39, 43.3, 52, 57.8, 58.5, 65, 72.2Mbps
Frequency Support	20 MHz: 2.4 GHz bands
Modulation	Direct Sequence Spread Spectrum DBPSK, DQPSK, CCK, OFDM, BPSK, QPSK, 16-QAM, 64-QAM
Security[1]	Supports 64- and 128-bit WEP, WPA, WPA2, hardware-accelerated AES, 802.1x authentication types EAP-TLS, EAP-TTLS, PEAP-GTC, PEAP-MSCHAPv2, LEAP, EAP-FAST. Support for Cisco Security Features (proven compatibility with Cisco Aironet infrastructure products through the Cisco Compatible Extensions Program Version 4) with Microsoft Windows Vista and XP only.
Sub-channels	Multinational support with frequency bands and channels compliant to local regulations.
Media Access Protocol	CSMA/CA (Collision Avoidance) with ACK
Network Architecture Models	Ad-hoc (Peer to Peer) Infrastructure (Access Point Required)

Roaming	IEEE 802.11 compliant roaming between access points	
Output Power (for CCK)[2]	17 dBm , nominal	
Output Power (for OFDM; power varies by data rate)[2]	15 dBm , nominal	
Power Consumption	Idle associated: 250 mW avg (CLKREQ enabled) Idle unassociated: 425 mW avg Transmit/Receive 20 MHz channel: 5.5 W (max)	
Power Management	ACPI compliant power management 802.11 compliant power saving mode	
Receiver Sensitivity[3]	72.2 Mbps: -71dBm	
Antenna type	High efficiency dual band antenna with spatial diversity, usually mounted in the display enclosure	
Form Factor	PCI-Express Half-MiniCard	
Weight	0.013 lb (6 g)	
Dimensions	0.19 x 1.06 x 1.18 in (4.75 x 26.8 x 30 mm)	
Operating Voltage	3.3v +/- 10%	
Temperature	Operating Non-operating	14° to 149° F (-10° to 65° C) -40° to 176° F (-40° to 80° C)
Humidity	Operating Non-operating	10% to 90% (non-condensing) 5% to 95% (non-condensing)
Altitude	Operating Non-operating	0 to 10,000 ft (3,048 m) 0 to 50,000 ft (15,240 m)
LED Activity	LED Off - Radio OFF; Solid LED On - Radio ON	

1. Check latest software/driver release for updates on supported security features.
2. Maximum output power may vary by country according to local regulations.
3. Receiver sensitivity is measured at a packet error rate of 8% for 802.11b (CCK modulation) and a packet error rate of 10% for 802.11a/g (OFDM modulation).
4. WLAN supplier's client utility is required for Cisco Compatible Extensions support with Microsoft Windows XP. WLAN may also be compatible with certain third-party software supplicants. WLAN supplier IHV extensions required for Cisco Compatible Extensions support for Microsoft Windows Vista and Win7.

HP Integrated Module with Bluetooth 2.1+EDR Wireless Technology

Bluetooth Specification	2.1+EDR Compliant
Dimensions	1.18 x 0.26 x 0.13 in (30 x 6.5 x 3.25 mm)
Frequency Band	2402 to 2480 MHz
Number of Available Channels	79 (1 MHz) available channels
Data Rates and Throughput	3 Mbps data rate; throughput up to 2.17 Mbps Synchronous Connection Oriented links up to 3, 64 kbps, voice channels Asynchronous Connection Less links 2178.1 kbps/177.1 kbps asymmetric or 1306.9 kbps symmetric
Transmit Power	-6 dBm to 4 dBm (Bluetooth Class II)
Receiver Sensitivity	Better than -80 dBM at 0.1 % raw bit error rate

Power Consumption	Peak (Tx) 264 mW	
	Peak (Rx) 231 mW	
	Sleep <1 mW	
Antenna	Internally integrated within module	
Range	Up 33 ft (10 m)	
Electrical Interface	USB 2.0 compliant	
	Microsoft Windows Plug and Play compliant	
Bluetooth Software Supported	Broadcom Bluetooth for Windows	
	Microsoft Windows Bluetooth Software	
Link Topology	Point to Point, Multipoint Pico Nets up to 7 slaves	
Security	Full support of Bluetooth Security Provisions	
Power Management	Microsoft Windows ACPI, and USB Bus Support	
	Self configurable to optimize power conservation in all operating modes, including Standby, Hold, Park, and Sniff	
Certifications	All necessary regulatory approvals for supported countries, including:	
	FCC (47 CFR) Part 15C, Section 15.247 & 15.249	
	ETS 300 328, ETS 300 826	
	Low Voltage Directive IEC950	
	UL, CSA, and CE Mark	
Temperature	Operating	-4° to 158° F (-20° to 70° C)
	Non-operating	-40° to 176° F (-40° to 80° C)
Humidity	Operating	10% to 90%
	Non-operating	5% to 95%
Altitude	Operating	15,000 ft (4,572 m)
	Non-operating	40,000 ft (12,192 m)
Bluetooth Profiles Supported	Serial Port Profile (SPP)[1]	
	Service Discovery Applicaton Profile (SDAP)	
	Dial-Up Networking (DUN)[1,2]	
	Generic Object Exchange Profile (GOEP)[1,2]	
	Object Push Profile (OPP)[1,2]	
	File Transfer Profile (FTP)	
	Synchronization Profile (SYNC)	
	Hard Copy Cable Replacement (HCRP)[1,2]	
	Personal Area Networking Profile (PAN)[1,2]	
	Human Interface Device Profile (HID)[1,2,3]	
	FAX Profile (FAX)	
	Basic Imaging Profile (BIP)[2]	
	Headset Profile (HSP)	
	Hands Free Profile (HFP)	
	Advanced Audio Distribution Profile (A2DP)	

1. indicates the profile is supported by Microsoft Windows XP SP2
2. indicates the profile is part of Windows Vista

Environmental Data

Eco-Label Certifications

This product has received or is in the process of being certified to the following approvals and may be labeled with one or more of these marks:

- US Energy star
- IT ECO declaration
- EPEAT – Gold

System Configuration

The configuration used for the Energy Consumption and Declared Noise Emissions data for these models are based on a "Typically Configured Notebook"

HP EliteBook 8460p Notebook PC

Energy Consumption	115 VAC	230 VAC	100 VAC
Normal Operation	11.57 W	12.11 W	11.45 W
Sleep (Energy Star low power mode)	1.23 W	1.31 W	1.14 W
Off	0.56 W	0.62 W	0.51 W

Heat Dissipation*	115 VAC	230 VAC	100 VAC
Normal Operation	40 BTU/hr	41 BTU/hr	390 BTU/hr
Sleep	4 BTU/hr	4 BTU/hr	4 BTU/hr
Off	2 BTU/hr	2 BTU/hr	2 BTU/hr

* Heat dissipation is calculated based on the measured watts, assuming the service level is attained for one hour.

Declared Noise Emissions (in accordance with ISO 7779 and ISO 9296)

System Fan Off	Sound Power (LWAd, bels)	Sound Pressure (LpAm, decibels)
Idle	3.3	26.7
Fixed Disk (random writes)	3.4	30.2

System fan is usually off except when charging the battery

Batteries

This battery(s) in this product comply with EU Directive 2006/66/EC

Batteries used in the product do not contain:

- Mercury greater the 5ppm by weight
- Cadmium greater than 10ppm by weight

The battery type and chemistry used in the product is:
CR2032 (coin cell), Li-ion
6-cell high capacity Lithium-Ion battery (optional 8 cell available)

Additional information

This product is in compliance with the Restrictions of Hazardous Substances (RoHS) directive – 2002/95/EC.

This HP product is designed to comply with the Waste Electrical and

Electronic Equipment (WEEE) Directive – 2002/96/EC.

This product is in compliance with California Proposition 65 (State of California; Safe Drinking Water and Toxic Enforcement Act of 1986).

This product is in compliance with the IEEE 1680 (EPEAT) standard at the Gold level, see: www.epeat.net

Plastics parts weighing over 25 grams used in the product are marked per ISO 11469 and ISO1043.

This product contains 0% post consumer recycled plastic (by wt.)

This product is greater than 95.1% recycle-able when properly disposed of at end of life.

Packaging Materials

- External:
  - Corrugated Paper – 500 g
  - CANON bags-several layers – 5 g
- Internal:
  - Polyethylene – 15 g
  - Molded pulp – 180 g
- The Corrugated Paper packaging material is made from 80% recycled content.
- The CANON bags-several layers packaging material is made from 80% recycled content.
- The Polypropylene packaging material is made from 80% recycled content.
- The Molded Pulp packaging material is made from 80% recycled content.

HP follows these guidelines to decrease the environmental impact of product packaging:

- Eliminate the use of heavy metals such as lead, chromium, mercury and cadmium in packaging materials.
- Eliminate the use of ozone-depleting substances (ODS) in packaging materials.
- Design packaging materials for ease of disassembly.
- Maximize the use of post-consumer recycled content materials in packaging materials.
- Use readily recyclable packaging materials such as paper and corrugated materials.
- Reduce size and weight of packages to improve transportation fuel efficiency.
- Plastic packaging materials are marked according to ISO 11469 and DIN 6120 standards.

HP EliteBook 8560p Notebook PC

Energy Consumption	115 VAC	230 VAC	100 VAC
Normal Operation	9.71 W	9.81 W	11.45 W
Sleep (Energy Star low power mode)	0.81 W	0.90 W	0.80 W
Off	0.56 W	0.64 W	0.55 W

Heat Dissipation*	115 VAC	230 VAC	100 VAC
Normal Operation	33.4 BTU/hr	33.5 BTU/hr	33 BTU/hr
Sleep	3 BTU/hr	3 BTU/hr	3 BTU/hr
Off	2 BTU/hr	2 BTU/hr	2 BTU/hr

* Heat dissipation is calculated based on the measured watts, assuming the service level is attained for one hour.

Declared Noise Emissions (in accordance with ISO 7779 and ISO 9296)

System Fan Off	Sound Power (LWAd, bels)	Sound Pressure (LpAm, decibels)
Idle	2.9	24
Fixed Disk (random writes)	3.8	32

System fan is usually off except when charging the battery

Batteries

This battery(s) in this product comply with EU Directive 2006/66/EC

Batteries used in the product do not contain:

- Mercury greater the 5ppm by weight
- Cadmium greater than 10ppm by weight

The battery type and chemistry used in the product is:
CR2032 (coin cell), Li-ion
6-cell high capacity Lithium-Ion battery (optional 8 cell available)

Additional information

This product is in compliance with the Restrictions of Hazardous Substances (RoHS) directive – 2002/95/EC.

This HP product is designed to comply with the Waste Electrical and Electronic Equipment (WEEE) Directive – 2002/96/EC.

This product is in compliance with California Proposition 65 (State of California; Safe Drinking Water and Toxic Enforcement Act of 1986).

This product is in compliance with the IEEE 1680 (EPEAT) standard at the Gold level, see: www.epeat.net

Plastics parts weighing over 25 grams used in the product are marked per ISO 11469 and ISO1043.

This product contains 0% post consumer recycled plastic (by wt.)

This product is greater than 95.5% recycle-able when properly disposed of at end of life.

Packaging Materials

- External:
  - Corrugated carton – 375 g
  - Paper/cardboard – 310 g
- Internal:
  - Polyethylene low density solid – 22 g
- The Corrugated carton packaging material is made from 80% recycled content.
- The Paper/Cardboard packaging material is made from 80% recycled content.
- The Polyethylene low density solid packaging material is made from 80% recycled content.

HP follows these guidelines to decrease the environmental impact of product packaging:

- Eliminate the use of heavy metals such as lead, chromium, mercury and cadmium in packaging materials.
- Eliminate the use of ozone-depleting substances (ODS) in packaging materials.
- Design packaging materials for ease of disassembly.
- Maximize the use of post-consumer recycled content materials in packaging materials.
- Use readily recyclable packaging materials such as paper and corrugated materials.
- Reduce size and weight of packages to improve transportation fuel efficiency.
- Plastic packaging materials are marked according to ISO 11469 and DIN 6120 standards.

Material Usage

This product does not contain any of the following substances in excess of regulatory limits (for reference of these limits please refer to the HP General Specification of the Environment: (http://www.hp.com/hpinfo/globalcitizenship/environment/supplychain/gen_specifications.html):

- Asbestos
- Certain Azo Colorants
- Certain Brominated Flame Retardants - may not be used as flame retardants in plastics
- Cadmium
- Chlorinated Hydrocarbons
- Chlorinated Paraffins
- Formaldehyde
- Halogenated Diphenyl Methanes
- Lead carbonates and sulfates

- Lead and Lead compounds
- Mercuric Oxide Batteries
- Ozone Depleting Substances
- Polybrominated Biphenyls (PBBs)
- Polybrominated Biphenyl Ethers (PBBEs)
- Polybrominated Biphenyl Oxides (PBBOs)
- Polychlorinated Biphenyl (PCB)
- Polychlorinated Terphenyls (PCT)
- Polyvinyl Chloride (PVC) - except for wires and cables, and certain retail packaging has been voluntarily removed from most applications.
- Radioactive Substances
- Tributyl Tin (TBT), Triphenyl Tin (TPT), Tributyl Tin Oxide (TBTO)
- Nickel finishes that release greater than 0.5 micro-grams/cm ^ 2/week, measured according to EN 1811:1998, are not used on any product surface designed to be frequently handled or touched by users.

End-of-life Management and Recycling

Hewlett-Packard offers end-of-life HP product return and recycling programs in many geographic areas. To recycle your product, please go to: http://www.hp.com/go/reuse-recycle or contact your nearest HP sales office. Products returned to HP will be recycled, recovered or disposed of in a responsible manner.

The EU WEEE directive (2002/95/EC) requires manufacturers to provide treatment information for each product type for use by treatment facilities. This information (product disassembly instructions) is posted on the Hewlett Packard web site at: http://www.hp.com/go/recyclers. These instructions may be used by recyclers and other WEEE treatment facilities as well as HP OEM customers who integrate and re-sell HP equipment.

Hewlett-Packard Corporate Environmental Information

For more information about HP's commitment to the environment:
Global Citizenship Report
http://www.hp.com/hpinfo/globalcitizenship/gcreport/index.html
Environment website
http://www.hp.com/environment
Eco-label certifications
http://www.hp.com/hpinfo/globalcitizenship/environment/productdesign/ecolabels.html
ISO 14001 certificates:
http://www.hp.com/hpinfo/globalcitizenship/environment/operations/envmanagement.html

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